AMENDMENTS TO THE CLAIMS

Please amend the claims as follows. Please add new claims 5-20.

1.   (Currently Amended) A frequency offset detection processing system including comprising:

a TCXO (Temperature Compensated Crystal Oscillator, Temperature Compensated X'tal Oscillator) (10) which generates a reference frequency[[,]];

a demodulation unit (30) which demodulates a reception signal[[,]];

a frequency offset detection unit (40) which detects a frequency offset from a phase moving amount between symbols of adjacent pilot signals[[,]]; and

an AFC (Auto Frequency Control) control unit (20), characterized in that said AFC control unit comprises:

a majority determination unit (21) which determines whether each of phase moving amount detection values by a plurality of frequency offsets, which are detected for a predetermined time and read out from said frequency offset detection unit, is a positive value or a negative value, and totalizes to determine which of the positive values and the negative values are larger in number[[,]];

a detection value conversion unit (22) which converts the phase moving amount detection values read out from said frequency offset detection unit in accordance with a majority determination result from said majority determination unit[[,]];

an averaging processing unit (23) which executes processing for adding the

phase moving amount detection values read out from said frequency offset detection

unit and converted by said detection value conversion unit and dividing a sum by the

number of added values[[,]]:

a correction value calculation unit (24) which calculates a frequency offset

from the phase moving amounts after averaging processing by said averaging

processing unit[[,]]; and

a TCXO control unit (25) which corrects TCXO control on the basis of the

frequency offset calculated by said correction value calculation unit.

2.   (Currently Amended) [[A]]The system according to claim 1, wherein in

converting the phase moving amount detection values,

when it is determined as the majority determination result that the number of negative

detection values is smaller, said detection value conversion unit converts the negative

detection values to +360° + the negative detection values[[,]]: and

when it is determined as the majority determination result that the number of positive

detection values is smaller, said detection value conversion unit converts the positive

detection values to -360° + the positive detection values.

3.   (Currently Amended) A frequency offset detection processing method

characterized by comprising:

the a Temperature Compensated Crystal Oscillator (TCXO) step of generating a

reference frequency;

the demodulation step of demodulating a reception signal;

the frequency offset detection step of detecting a frequency offset from a phase

moving amount between symbols of adjacent pilot signals;

the majority determination step of determining whether each of phase moving amount

detection values by a plurality of frequency offsets, which are detected for a predetermined

time and read out in the frequency offset detection step, is a positive value or a negative

value, and totalizing to determine which of the positive values and the negative values are

larger in number;

the detection value conversion step of converting the phase moving amount detection

values in accordance with a majority determination result;

the averaging processing step of executing processing for adding the phase moving

amount detection values by the plurality of frequency offsets after conversion and dividing a

sum by the number of added values;

the correction value calculation step of calculating a frequency offset from the phase

moving amounts after averaging processing; and

the TCXO control step of correcting TCXO control on the basis of the calculated

frequency offset.

4.   (Currently Amended) [[A]]The method according to claim 3, wherein the

detection value conversion step further comprises: the steps of

in converting the phase moving amount detection values, when it is determined as the

majority determination result that the number of negative detection values is smaller,

converting the negative detection values to +360° + the negative detection values[[,]]; and

in converting the phase moving amount detection values, when it is determined as the

majority determination result that the number of positive detection values is smaller, converting the positive detection values to $-360°$ + the positive detection values.

5.   (New) The system according to claim 1, wherein in converting the phase moving amount detection values, when it is determined as the majority determination result that the number of negative detection values is smaller, said detection value conversion unit converts the negative detection values to $+360°$ + the negative detection values.

6.   (New) The system according to claim 1, wherein in converting the phase moving amount detection values, when it is determined as the majority determination result that the number of positive detection values is smaller, said detection value conversion unit converts the positive detection values to $-360°$ + the positive detection values.

7.   (New) The method according to claim 3, wherein the detection value conversion further comprises in converting the phase moving amount detection values, when it is determined as the majority determination result that the number of negative detection values is smaller, converting the negative detection values to $+360°$ + the negative detection values.

8.   (New) The method according to claim 3, wherein the detection value conversion further comprises in converting the phase moving amount detection values, when it is determined as the majority determination result that the number of positive detection values is smaller, converting the positive detection values to $-360°$ + the positive detection values.

9.   (New) The system according to claim 1, wherein said majority determination unit determines the shift direction of a frequency offset by majority determination before averaging processing and making the signs of detection values coincide from the majority determination result.

10.   (New) The system according to claim 1, wherein said majority determination unit determines the shift direction of the frequency offset.

11.   (New) The system according to claim 1, wherein detection values with a sign, which are determined as smaller in number by the majority determination unit, are regarded as values whose shift direction of the frequency offset is erroneously determined.

12.   (New) The system according to claim 1, wherein when it is determined as a result of majority determination that a number of negative detection values is smaller, the negative detection values are converted.

13.   (New) The system according to claim 1, wherein the signs of all detection values are made to coincide by determining the shift direction before the averaging processing.

14.   (New) The system according to claim 1, wherein majority determination is performed after weighting is executed in accordance with one of reception power and magnitude of a phase moving amount.

15.   (New) The system according to claim 1, wherein a distribution of the phase shift detection values after conversion in accordance with a majority determination result from said majority determination result in a Gaussian distribution.

16.   (New) The system according to claim 15, wherein a central value of the distribution and an average value of the distribution have approximately the same value.

17.   (New) An AFC (Auto Frequency Control) unit comprising:

a majority determination unit which determines whether each of phase moving amount detection values by a plurality of frequency offsets, which are detected for a predetermined time and read out from said frequency offset detection unit, is a positive value or a negative value, and totalizes to determine which of the positive values and the negative values are larger in number;

a detection value conversion unit which converts the phase moving amount detection values read out from said frequency offset detection unit in accordance with a majority determination result from said majority determination unit;

an averaging processing unit which executes processing for adding the phase moving amount detection values read out from said frequency offset detection unit and converted by said detection value conversion unit and dividing a sum by the number of added values;

a correction value calculation unit which calculates a frequency offset from the phase moving amounts after averaging processing by said averaging processing unit; and

a Temperature Compensated Crystal Oscillator (TCXO) control unit which corrects a TCXO control on the basis of the frequency offset calculated by said correction value

calculation unit.

18.   (New) The AFC unit according to claim 17, wherein said majority

determination unit determines the shift direction of a frequency offset by majority

determination before averaging processing and making the signs of detection values coincide

from the majority determination result.

19.   (New) The AFC unit according to claim 17, wherein a distribution of the

phase shift detection values after conversion in accordance with a majority determination

result from said majority determination result in a Gaussian distribution.

20.   (New) The AFC unit according to claim 17, wherein a central value (actual

phase shift) of the distribution and an average value (detection value after processing) of the

distribution have approximately the same value.